

Environmental Services for the Rail Industry



In-place FRA 219 Railroad Contractor Compliance Plan



**EA Engineering,
Science, and
Technology, Inc., PBC**

*IMPROVING THE QUALITY OF THE ENVIRONMENT
IN WHICH WE LIVE, ONE PROJECT AT A TIME®*



EA has been providing a full range of environmental services to the Class I and II railroad industry for over 30 years. We are experienced in the diverse nature of environmental concerns facing major transportation companies from environmental, health and safety compliance to remediation and emergency spill response.

Our mission is to develop fully integrated, multidisciplinary solutions for our clients. EA is a 100% employee-owned Public Benefit Corporation (PBC) headquartered in Maryland. Founded in 1973, we have performed more than \$2 billion in services over the past 49 years.

We are a leading provider of environmental, engineering, compliance, information technology, natural resources, and infrastructure management solutions for a highly diverse client base that includes the federal government; states and municipalities; modal clients (e.g., railways, ports, airport authorities, etc.); utilities; private industry including Fortune 500 companies; trade associations; academic institutions; non-profit organizations; and others.

Safety Always. The safety of our employees, subcontracted partners, clients, and work environments continues to be our first priority. Our in-place safety management system (SMS) has been approved by leading third-party compliance networks and is compliant with Federal Railroad Administration (FRA) requirements.

EA's safety statistics—including an Experience Modification Rate (EMR) that consistently remains below the industry benchmark of 1.0—and National Safety Council awards reflect our commitment to maintaining a safe work environment. EA is an active member of numerous third-party supplier management services that require continual improvement in health and safety program performance.

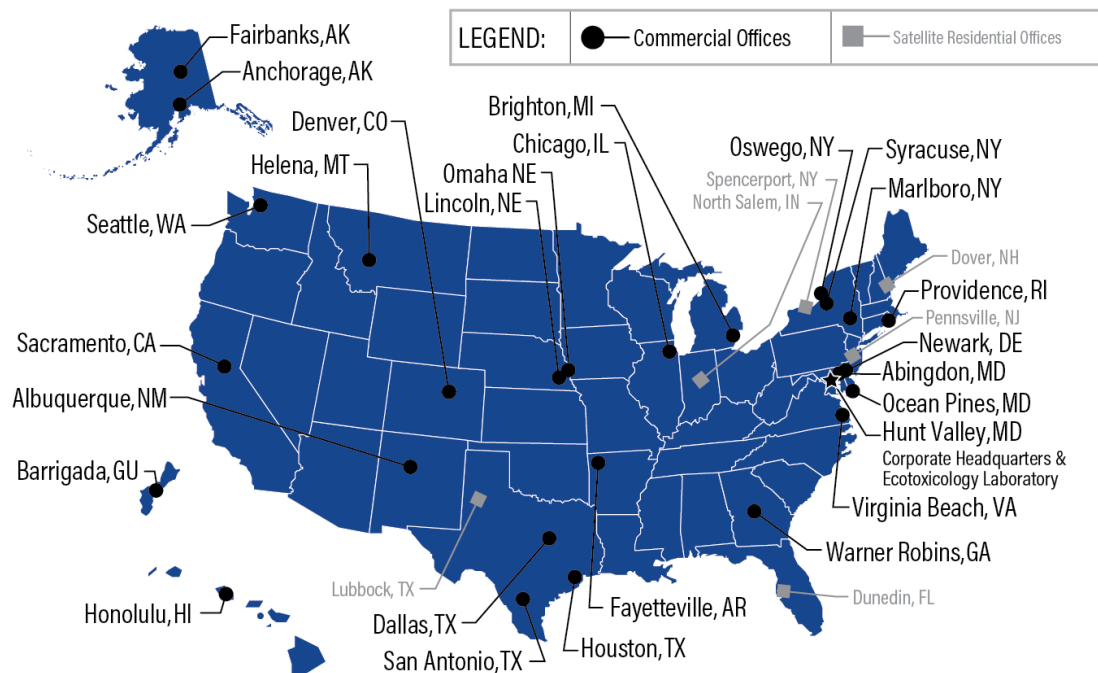
Rail Industry Capabilities

- Due Diligence/Acquisition Support
- Impact Analysis and Permitting
- Environmental, Health, and Safety Compliance Inspections and Monitoring
- Emergency Response
- Regulatory Management Plans (e.g., FRP, SPCC, SWPPP, HWMP, etc.)
- Site Investigation and Remediation
- Construction Management and Compliance Support
- Habitat and Wetland Surveys
- Management Systems Design, Implementation, and Certification
- Due Diligence Support to Acquisition and Divestiture of Facilities
- Environmental Justice Analysis
- Technology Solutions and GIS
- Ecotoxicology and Biological Laboratory Analysis
- Training



- 30-year relationship with the railroad industry
- In-place staff with e-railsafe, TWIC and FRA-approved certifications
- More than 600 employees and a network of 27 commercial offices across the United States
- An Engineering News-Record "Top 200 Environmental Firm" and "Top 500 Design Firm"
- Commitment to safety demonstrated by Occupational Excellence Achievement and Industry Leader awards from National Safety Council
- Established small business and diverse supplier reporting programs

EA's FRA 219 Railroad Contractor Compliance Plan was approved by in November 2018.



EH&S Compliance and Assurance

Full-service EH&S Management Consulting.

EA helps our clients reduce business liabilities by managing the life cycle of products and services; achieving environmental, health, and safety (EH&S) compliance obligations; reducing accident and injury rates; and minimizing impacts on the environment. Our experience spans local, single-facility projects to global, multi-facility corporate programs. Our services include audits and assessments, integrated EH&S management systems, on-site staffing/outsourcing, and training. Our proven experience, technical expertise, and innovative approaches allow us to deliver solutions that control risk and liability, with emphasis on the bottom line. Our compliance services include:

- Environmental, Health, Safety and Security Management Systems Design, Implementation and Certification
- Stormwater Plans and Wastewater Management Sampling
- Regulatory Management Plans e.g., Spill Prevention, Control, and Countermeasure Plans (SPCC), Facility Response Plans (FRPs), etc.
- Air Emissions Inventories, Modeling and Permitting
- Hazardous and Non-Hazardous Waste Management
- Hazardous Materials Surveys and Management Plans
- Training Program Development and Deployment
- Auditing and Audit Program Development



Stormwater Management & Spill Prevention. EA provides a comprehensive suite of assessment, design, permitting, training, and O&M services addressing stormwater management including completion of inspections and identification and implementation of corrective actions. Services include Stormwater Pollution Prevention Plan (SWPPP) development, infrastructure planning, design, permitting, construction, and O&M, including sampling program development, monitoring and testing; modeling and analysis; and permit compliance data analysis and reporting. For spill prevention and countermeasures control (SPCC), EA works with our clients to develop, update and certify baseline, interim, and updated SPCC plans in accordance with federal and state regulatory drivers. SPCC plans are prepared under the direction of a Professional Engineer (PE) in the governing state.

Routine Compliance Inspections. EA provides routine compliance inspections at 80 rail yards/facilities throughout the states of AZ, CO, MT, ND, SD, WA, and WY for the railroad industry. Inspections are completed in accordance with approved procedures and instructions, applicable facility-specific regulatory management plans i.e., SPCC, SWPPP, etc. or permits. Inspection scopes include: air emissions, OPA/FRP, SPCC, SWPPP, waste management, etc. EA completes visual monthly facility inspections of assets and facility area utilizing approved forms and observations/findings are managed in an enterprise MIS. In the past three years, EA has completed over 700 compliance inspections without a safety incident—no regulatory violations or notices of violation have been received for any of the facilities under EA's oversight.

Air Emissions Permitting Support. For a Class I railroad, EA completed facility-wide and county-wide permit applications for ~175 emissions units throughout the state of Wyoming. Tasks included completing an emission inventory at each yard; calculation of emissions; and site visits to gather stack dimensions. Permit applications and/or waiver requests were prepared for submittal to the Wyoming Department of Environmental Quality. EA maintained monitoring, recordkeeping, and reporting requirements and organized data in a GIS database.

Construction Support

Compliance Plans. Every infrastructure project encounters multiple project phases and potential compliance obstacles. EA guides clients — from early ideas and plans, through construction oversight and post-construction monitoring. This approach facilitates efforts to stay on schedule, within budget, and inside scope by providing innovative engineering, science, and technological solutions throughout the project life cycle. As part of this effort, EA helps clients anticipate hurdles and potential environmental impacts that may be the result of project execution.

Taking a risk-based integrated approach to environmental compliance, EA excels at combining scientific expertise with strong communication skills to facilitate sound decision-making. We are highly experienced at achieving compliance with complex regulatory requirements, negotiating and obtaining local construction approvals, and developing project-specific training and procedures to avoid non-compliance.

EA helps projects stay on schedule by developing construction compliance documents. EA has extensive experience preparing:

- Health and Safety Plans
- Material Management Plans (soil, water, or other media)
- Spill Prevention Control and Countermeasure (SPCC) Plans
- Stormwater Pollution Prevention Plans (SWPPP)
- Solid and Hazardous Waste Management Plans
- Unanticipated Discovery Plan for Cultural Resources
- Unanticipated Discovery Plans for Contaminated Soil and Groundwater
- Dewatering Plans

Assessments, Planning, and Permitting. Construction activities frequently encounter contaminated soil, water, or other contaminated media (e.g., building materials or underground and aboveground storage tanks). From pre-design through planning and permitting EA helps to ensure construction projects stay on schedule. EA has extensive experience completing Phase I and II Environmental Site Assessments (ESAs), HazMat Surveys, and planning documents including:

- Health and safety plans;
- Material management plans (soil, water, or other media); and
- Wetland/waterway crossing permitting and monitoring.

Cost Estimates for Washington State Railyard Construction Projects. EA prepared cost estimates for two engineering reports, two pilot studies, and one design-construction oversight. EA's cost estimates provided detailed breakdown of labor hours, subcontractors, and expenses for each task. During preparation of the civil design for stormwater treatment systems, EA requested bids from vendors for precast concrete vendors. Quotes received were tabulated in a spreadsheet to present to the client with a streamlined comparison tool and aid in decision-making for construction award. For both projects, EA prepared an RS Means cost estimate based on quantities of piping, structures, and trenching to be performed. EA reviewed contractor change order requests to determine if they were justifiable based on EA's system design knowledge; EA negotiated reductions in requests totaling ~\$10,000 savings for the client.



HAZMAT/Remediation Services

HAZMAT/Remediation Services

- Environmental Site Assessments (Phase I, II, asbestos, LBP, mold)
- Environmental sampling program development, implementation, and reporting
- CERCLA/RCRA
- Environmental data management
- Effective regulatory negotiations and remedial objective development
- Predesign sampling and analysis
- Plume 3-D modeling, system optimization, and pilot/treatability studies
- Onsite verification of site clean-up and natural attenuation processes
- Public information/meeting support
- Permitting support
- Risk assessment/management
- Site health & safety oversight
- Construction oversight, feasibility studies, and corrective action measures
- Groundwater and soil treatment system design, construction, operation, and maintenance
- Remedy optimization and Life-Cycle Cost analysis
- PFAS/PFOA Remedies and Management Solutions

Responsive Expertise. Our technical staff and field crews are highly experienced with hazardous wastes; petroleum, oil, and lubricants; industrial solvents; mixed waste; coal tar and creosote; PCBs; and metals. EA excels at developing and implementing remediation/site closure strategies taking into consideration investigative results, future plans for site use, regulatory requirements, and financial implications. We enable our clients to balance productivity and stewardship at operational facilities. We find opportunity in the challenges of the regulatory environment to exceed goals in a safe and environmentally-sound manner via comprehensive solutions.



Practical Risk-Based Solutions and Innovation.

EA is a recognized expert in combining scientific and engineering expertise with strong communication skills to facilitate sound decision-making. EA's approach matches practical, risk-based solutions with innovation. We partner with our clients to develop customized solutions that balance financial, operational, environmental, health and safety, security, regulatory requirements, and community goals. We help our clients reduce operating while protecting the health of employees and surrounding communities, and ensuring the quality of the environment.

Derailment Emergency Response and Remediation. After a derailment in sub-freezing temperatures that released 100,000 gallons of diesel fuel, EA was onsite within hours of being notified. Successfully stopped fuel plume from infiltrating adjacent river by: pumping free product that was not absorbed; constructing temporary coffer dams to control runoff from the embankment, soil washing with a surfactant, and groundwater treatment and long-term monitoring. Design, installation, and startup of a vacuum enhanced groundwater treatment system. Received closure approval for system within 3 months of initial release. EA has excellent relationships with all of the primary rail industry response contractors and the ability to integrate with them on derailments.

Reuse of Former Railyard. EA supported rail yard reuse and redevelopment with investigative services, remedial action services, and regulatory interaction for voluntary closure. Successfully negotiated clean-up levels for industrial development of vacant properties formerly used for stock piling material. Negotiated clean-up levels provided land-use restrictions and allowed for successful property transaction. Site stabilization included seeding, mulching, and additional stone and geomembrane-lined drainage controls. EA received an Environmental Excellence Award from the American Council of Engineering Companies' Nebraska Chapter.

Natural and Cultural Resources

Working on Behalf of Our Clients. EA is a recognized expert in combining good science, regulatory knowledge, and strong communication skills to facilitate resource stewardship. Utilizing innovative approaches, technologies, and tools, EA works to identify, assess, conserve, and restore natural areas. Critical to our success are our relationships with many federal, state, and local regulatory agencies allowing us to understand their requirements and processes, and anticipate potential impacts associated with regulatory changes.



Environmental Assessments. EA's biologists, foresters, ecologists, botanists, fisheries biologists, and soil scientists have logged thousands of management support and field hours conducting in-depth and comprehensive surveys and assessments in upland, riverine, and environmentally sensitive areas, particularly on the Atlantic Coast. Working in close partnership with federal, state, and local agencies, EA has formulated proactive management approaches that avoid potential conflicts between land and water use activities and natural resources, such as integrating land use and ecological integrity simultaneously. EA has experience evaluating both linear projects, like gas pipelines, and traditional project sites, such as compressor stations or liquefied natural gas (LNG) terminals. Services include:

- Wetland Delineation and Stream Assessments
- Human Health and Ecological Risk Assessments
- National Environmental Policy Act (NEPA) Environmental Assessments (EAs) and Environmental Impact Statements (EISs)
- Avian, fisheries, and rare, threatened, and endangered species surveys
- Sediment Evaluations and Dredged Material Management
- Community Outreach Programs

Streambank Restoration and Stabilization. EA has conducted erosion and sediment control inspections in CO, IA, MO, MT, NE, TX and WY associated with bridges, culverts, conveyances and slopes. EA also provided wetland delineations, mitigation planning, and permitting services for yard expansion. EA submitted the required Clean Water Act Section 404 permit application and Prospectus for a Wetland Mitigation Bank for U.S. Army Corps of Engineers (USACE) and regulatory agency review. EA assisted in the public hearing and public comment aspects of the project, including preparation of a responsiveness report. EA is currently providing wetland mitigation monitoring at sites in NE for permit compliance.

Natural & Cultural Resources Services

- NEPA Environmental Assessments and Environmental Impact Statements as well as State Environmental Policy Act Support
- Construction monitoring, sampling, and documentation, including pre- and post-construction analysis
- Wetland delineation, mitigation, and permitting
- Rare, Threatened, Endangered species surveys and consultations
- Land use and vegetation management
- Cultural resource assessment and planning
- Environmental permitting and regulatory negotiations
- Human health and ecological risk assessments
- Community outreach and public information support



Community Engagement

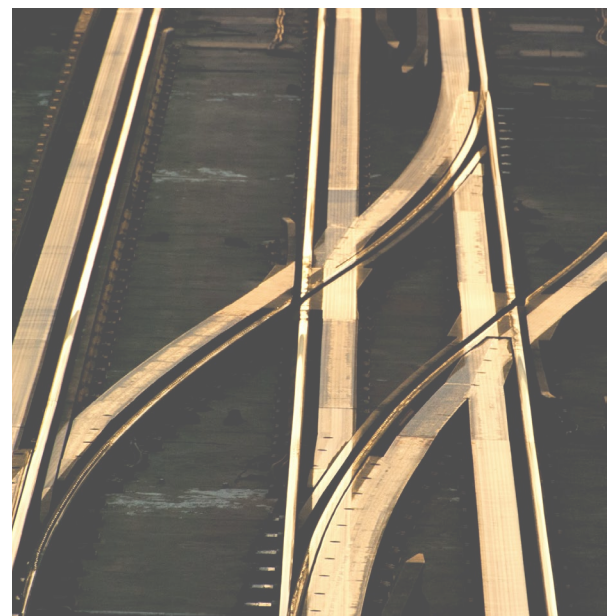
Public Involvement Support. Through our early involvement in the planning process, EA evaluates the project comprehensively and ensures all information relevant to environmentally sensitive areas, permitting requirements, community planning goals, stakeholder acceptance, and cumulative effects of the project are considered. We understand that consultation with a wide variety of stakeholders is essential to the acceptance and timely completion of new projects. Therefore, our public involvement process is designed to enhance mutual understanding of the project and facilitate partnership and collaboration. Through this approach, we have prevented months of delay and saved millions of dollars for our federal, state, local, and private clients.

Community Engagement. EA cares about the environment and the people. Our staff is specially trained to engage the community through extension and outreach efforts. As part of this effort, EA routinely works collaboratively with groups of people impacted by, or in general proximity to, the project, involving them in various project aspects for the welfare of the community.

Environmental Justice. A growing number of states have adopted laws that require regulators and the regulated community to apply significantly increased attention to potential environmental justice (EJ) exposure and address disproportionate potential impacts on racial minorities, Native American tribes, and disadvantaged communities. EA utilizes a screening-level EJ analysis to (1) identify the extent to which a regulatory action may raise potential EJ concerns, and (2) determine what level of analysis is feasible and appropriate to support the regulatory action. In cases where a potential EJ concerns are identified, early communication with decision makers and stakeholders is key to defining the most appropriate analysis for a particular regulatory action.



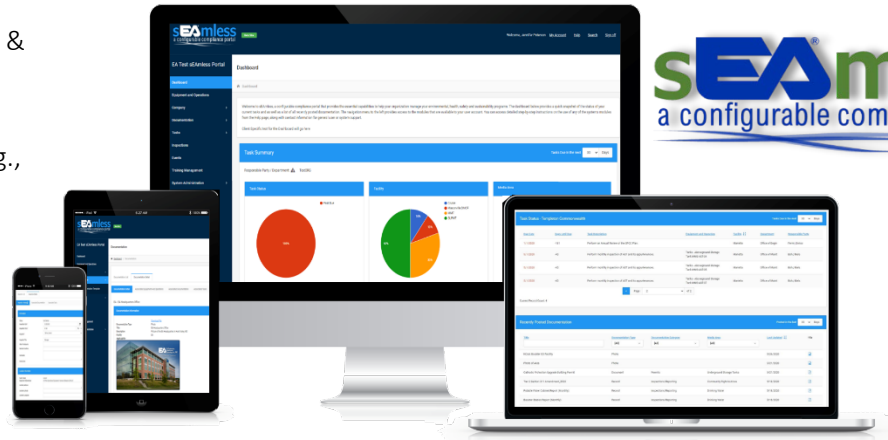
EA engineers lead a site tour at a project development site with a community group.



Technology Solutions

Information Technology Services

- Software Needs Assessment, Selection & Implementation
- Project Management
- Application Design & Development (e.g., SharePoint, BI)
- Desktop Office Solutions
- Web-based Enterprise Solutions
- Data Analysis & Warehousing
- Database Design
- Document Management
- System Hosting and Maintenance
- SaaS Compliance Portal Offering



sEAmless
a configurable compliance portal

Information Technology and Geographical Information Systems.

EA offers the full range of IT and GIS services including enterprise integration; business process/procedure evaluations; database design and development; data development and migration; formal training; and storage, hosting, and documentation. Our information specialists are proficient with all major GIS and CADD software. The breadth of our experience matches the broad spectrum of our clientele. EA develops solutions that provide clients with the ability to maintain and analyze combined data sets ensuring consistency across nationwide programs and compliance with federal, state, and municipal regulations with specific reporting requirements.

By incorporating custom-built tools with standard GIS technologies, EA continues to be on the leading edge of data collection, modeling, and spatial analysis. Our information specialists are proficient with all major GIS and CADD software. From producing 3D models with fly-through capabilities to creating web-based tools for data management, EA works closely with clients to develop data and databases necessary to support decision making processes.



Cityworks
Partner Network



As a Microsoft, Cityworks®, and esri business partner, we provide only the best industry standard technologies to our clients.

sEAmless: SaaS Compliance Portal. EA EHS&S Compliance and IT SMEs developed, hosts and maintains a Software-as-a-Service cloud-based portal, designed for professionals responsible for EHS&S Data management and reporting. sEAmless includes management of various environmental programs including inventory of assets (e.g., storage tanks, oil/water separators, boilers, etc.); management of inspection checklists via mobile field application; permit tracking and deconstruction of obligations to actions, assigning ownership and tracking to closure; training program management and more. sEAmless provides customers with a cost effective, simple to use, scalable solution that streamlines challenging compliance driven data management and reporting needs. Access sEAmless anywhere, anytime via a web browser and on mobile device 24/7/365.



Compliance Risk Management Solution. EA is supporting a Class I Railway with GIS and data management solutions. An example project, EA managed, rapidly developed and deployed the digital transformation of the client's Risk Matrix Program. Initially managed with Excel workbooks with redundant, manual, inefficient data input and output, the program was migrated to a centralized platform using Microsoft Power Platform Technologies. The new Risk Matrix Hub includes Risk Scoring, Controls, EMS Assessment and Risk Management Plan tracking and reporting capabilities deployed using Microsoft SharePoint, Power Apps, Power BI and Power Automate. The tool provides the client with efficient, reliable dashboards to manage the data inputs and outputs.



COLLABORATIVE ANALYSIS, THOUGHTFULLY APPLIED
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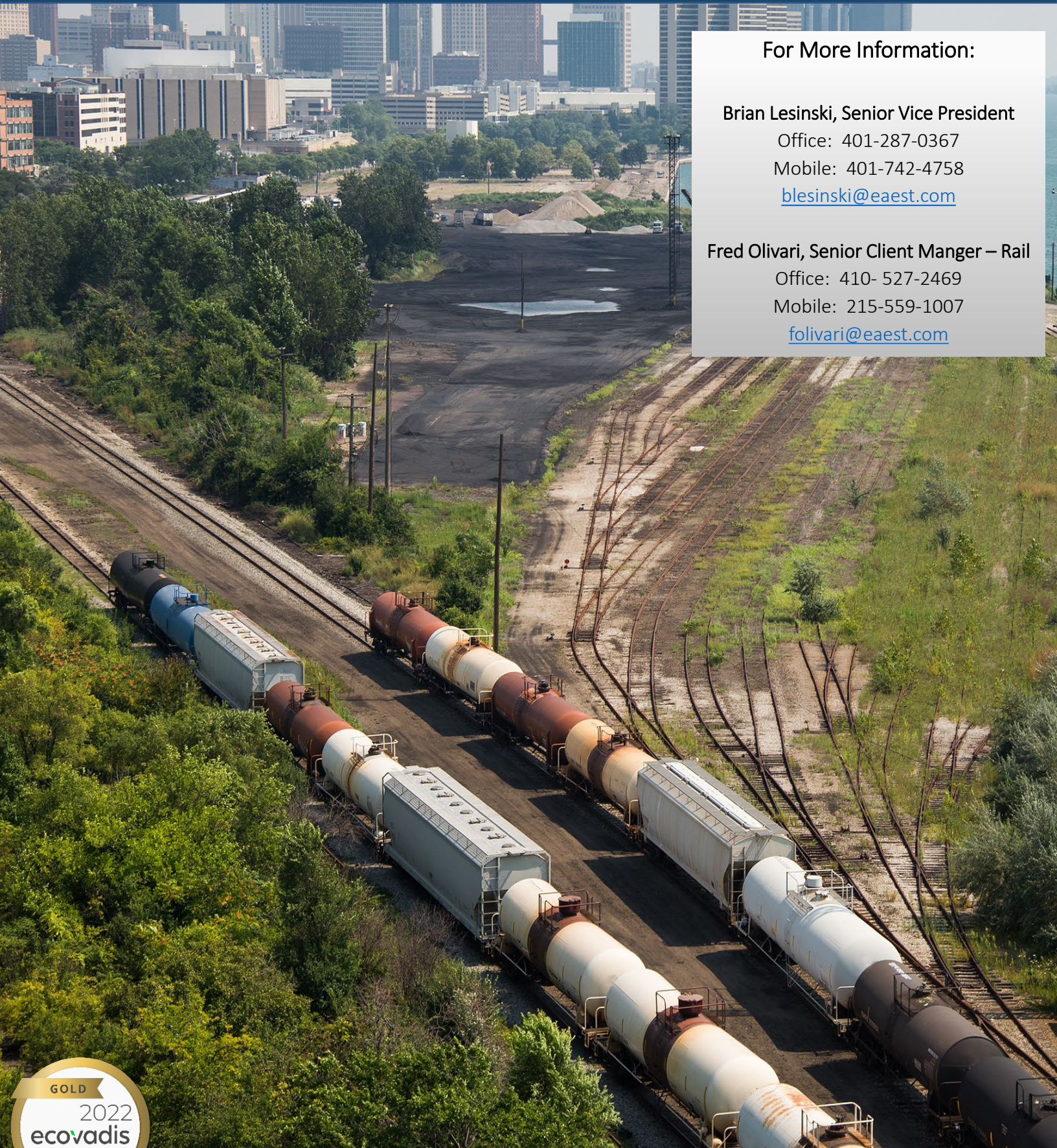
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EA's Corporate Social Responsibility Program has been rated Gold by EcoVadis.